



THE CITY OF SAN DIEGO

3/7/03
for 12 March agenda
item

March 6, 2003

Mr. John Robertus
Executive Officer
California Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA. 92123

Dear Mr. Robertus:

Subject: Comments on Tentative Cease & Desist Order No. R9-2003-0086
San Diego Convention Center Dewatering Discharge

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SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD

The City is in receipt of tentative *Cease and Desist Order No. R9-2003-0086, Against the City of San Diego for the San Diego Convention Center, Groundwater Extraction, Discharges to San Diego Bay, To Establish Compliance with Waste Discharge Requirements Order No. R9-2003-0050 (NPDES No. CA0109029)*. It is the City of San Diego's understanding that the agenda for the March 12th Regional Board meeting will include both a Tentative NPDES Permit and the Tentative *Cease and Desist Order (CDO)* for the San Diego Convention Center's dewatering discharge. The City has previously commented on the tentative NPDES Permit. This letter addresses City comments on *Cease and Desist Order No. R9-2003-0086*.

Prior to offering specific comments on the Tentative CDO, it is worth restating the history of the Convention Center dewatering discharge, as the CDO implies that the City has been "negligent" in seeking out a reasonable solution to the Convention Center discharge noncompliance. The City disagrees with the assertion of negligence in the strongest possible terms, and believes that the record shows that (1) the City has exerted considerable resources to assess and resolve the compliance problem, and (2) the Convention Center discharge at the boundary of the outfall mixing zone has been in compliance with state and federal receiving water standards applicable to San Diego Bay (with the exception of occasional exceedances of copper).

Background. The San Diego Convention Center has required dewatering of its under ground parking structure since its original construction. The ground water is taken from four sumps in the parking structure and was originally routed to the bay via the storm water system. Until recently the Port of San Diego had the responsibility for the dewatering. The majority of the groundwater collected in the Convention Center sumps is derived from seepage from the bay itself. Brackish groundwater from inland areas that is flowing toward the bay is also intercepted by the Convention Center dewatering sumps.



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The Convention Center has no control over the quality of the ground water that enters the sumps, and simply removes it to the bay to prevent the parking structure from flooding. The quality can vary over time depending on the dynamics involved in the underground movement of groundwater and San Diego Bay waters. Since its inception, the Convention Center groundwater dewatering discharge has periodically been in violation of NPDES effluent limits for several constituents, including copper, toxicity, and total suspended solids.

The Port (with assistance from the City of San Diego) sought to resolve Convention Center dewatering compliance difficulties by assembling a committee to study the violations and to develop recommend solutions. The committee was chaired by a Scripps scientist, and was comprised of Port and City staffs, Regional Board staff, scientific specialists, and environmental community representatives. The committee concluded its work by presenting two key recommendations: The first recommendation was to adopt a new testing procedure that took into account the salt water nature of the dewatering discharge. (The originally required monitoring specified fresh water test procedures that resulted in incorrect test values when applied to salt waters.) Secondly, the committee reviewed an array of potential solutions that included treatment alternatives, barriers and sub-surface walls and hydraulic improvements.

Although the new testing procedures brought a measure of immediate compliance, it was realized the additional steps were needed to insure continued compliance in the future, because of the inability to control the quality of the ground water. The group concluded that the best choice was to construct an engineered outfall and seek a site-specific NPDES permit. Information presented to the committee demonstrated that:

- such an outfall would allow the discharge to comply with applicable state and federal receiving water standards, and
- federal regulations and State of California guidance documents establish procedures that would allow the Regional Board to take into account hydrodynamic features of the outfall discharge in establishing appropriate effluent limits that implement state and federal receiving water standards.

The new testing procedure eliminated false results and initially appeared to bring the discharge into compliance. In November 1999, the City took over the responsibility of the dewatering operation from the Port. The Port and the City agreed to construct and co-fund the outfall and apply for a site specific NPDES permit as recommended by the committee for the final measure to ensure compliance and protection of the bay.

The outfall design was supported by studies to specifically target the location of the diffuser to allow for the greatest beneficial effect of bay currents, insuring maximum outflow of discharged waters through the bay into the open ocean. The outfall studies also showed that the outfall discharge achieved compliance with applicable state and federal receiving water quality standards.

Despite the new testing procedures, exceedances of the pre-outfall NPDES effluent limits periodically occurred as the new outfall was being designed and constructed. Some of these exceedances were determined to result from improper sampling or analysis procedures, and these procedures were corrected. To minimize the potential for further exceedances, the City at considerable expense implemented carbon treatment to treat 100 percent of the dewatered groundwater flow being discharged to the bay.

In mid-2001, the City submitted a site-specific NPDES permit application to the Regional Board that demonstrated that the outfall discharge achieved compliance with applicable state and federal receiving water standards. In accordance with state and federal policies and regulations, the City's application requested that the Regional Board establish site-specific NPDES permit effluent limits that were based on achieving compliance with applicable receiving water standards beyond the outfall diffuser zone of initial dilution. The application requested that appropriate effluent limits for the outfall be established in accordance with standards and policies set forth in the *California Ocean Plan*, U.S. EPA *California Toxics Rule*, and State Water Resources Control Board *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* for determining and defining zones of initial dilution (mixing zones) beyond which state and federal receiving water standards apply.

The review and development of a site-specific NPDES permit for the outfall discharge was delayed. As a result, the Convention Center discharge has remained under pre-outfall effluent limits that were not based on the hydrodynamic advantages provided by the outfall. The Convention Center discharge was thus in the unusual position of being in virtual compliance with receiving water standards, but not in compliance with pre-outfall effluent standards that were more stringent than were required to implement state and federal receiving water standards.

To date the City and the Port have spent considerable staff resources and nearly \$2 million dollars to resolve this issue. While the City has implemented the recommendations of the Technical Committee (which, again, included Regional Board representation), site-specific effluent limits for the discharge that are based on outfall hydrodynamics (as allowed for by state and federal policies and regulations) have yet to be implemented. Until such appropriate site-specific limits are developed, the City contends that the Convention Center discharge is in compliance with applicable state and federal receiving water quality standards, but is at the same time in non-compliance with artificially imposed pre-outfall NPDES permit standards that do not take into account discharge hydrodynamics.

In commenting on Tentative Order No. R9-2003-0050 (NPDES CA0109029), the City has again requested that the Regional Board, as prescribed in state and federal regulations and policies, take into account outfall hydrodynamics in developing appropriate effluent limits. (The lack of the Regional Board's use of hydrodynamics in developing site-specific standards for the Convention Center discharge is puzzling as the City cannot cite a single other discharge within the San Diego Region involving an engineered outfall/diffuser where outfall hydrodynamics have not been taken into account by the Regional Board in determining effluent limits necessary to implement receiving water quality standards.)

Copper Compliance. Since the implementation of the outfall discharge, it is the City's belief that the hydrodynamics of the Convention Center discharge has insured that the discharge implements applicable receiving water standards for toxicity, toxic organic constituents, and toxic inorganic constituents.

Regarding copper compliance, differences in opinion exist between City staff and Regional Board staff on ambient concentrations of copper within the outfall discharge zone. Citing copper data from areas within San Diego Bay marinas (not located near the outfall discharge zone), Regional Board staff contend that it is inappropriate to incorporate outfall hydrodynamics for establishing a copper effluent limit due to noncompliance of copper concentrations with the CTR limits in areas outside the discharge zone. Data presented within the City's NPDES report of waste discharge, on the other hand, indicates that copper concentrations within the outfall discharge zone are less than the CTR copper limit of 3.1 µg/l, and that receiving waters at the edge of the outfall mixing zone (zone of initial dilution) achieve compliance with this CTR limit except for intermittent occasions.

The City recognizes this difference in interpretation, and is willing to further study the copper issue with Regional Board staff. In parallel with seeking other solutions to resolve Convention Center discharge noncompliance with NPDES limits, it is the City's intent to continue to address the copper compliance issue, and to determine if the outfall zone receiving waters comply with the CTR copper limit. If this regulatory compliance can be demonstrated for copper, the City would expect appropriate regulatory relief from the Regional Board in assigning applicable copper effluent discharge limits for the Convention Center outfall discharge.

Comments on CDO. During the past several months City and Regional Board staff have maintained a dialogue to attempt to resolve NPDES permit issues and noncompliance issues associated with existing and proposed Convention Center NPDES effluent limits. It is our understanding that the CDO to be considered at the March 12 Board Meeting was to (1) establish an interim compliance date, and (2) require the City to submit a detailed compliance work plan and time schedule. The Regional Board would then review the submitted work plan and schedule, and implement an appropriate compliance time schedule (complete with "milestone" requirements) to insure long-term compliance with applicable water quality standards.

In anticipation of this approach, City staff have developed a preliminary work plan and time schedule that involves a "parallel" approach of simultaneously pursuing (1) a regulatory approach that demonstrates that the existing discharge implements applicable receiving water quality standards, and (2) an approach that focuses on a physical solution to the noncompliance. The regulatory approach would involve studies to assess compliance of discharge zone waters with applicable water quality standards, and assess the portion of dissolved copper that is chemically available for biological uptake. The proposed "physical solution" approach would focus on methods of eliminating the discharge or removing copper from the discharge. (As part of the previously noted committee, a number of physical compliance solutions were investigated. The committee, however, did not investigate solutions that involved the exclusive removal of copper or combinations of treat/removal strategies. The City proposes to assess these potential compliance strategies as part of physical solution approach.)

In keeping with our understanding of the proposed CDO approach, the City offers the following comments on findings and requirements of the Tentative CDO.

Finding No. 2. The discharge was out of compliance for NPDES permit effluent toxicity limits in April and July, 2001, but was back in compliance in December 2001. In January 2002 the discharge was again out of compliance with NPDES permit effluent toxicity limits. The City requests that the current statement should be replaced by the following:

The discharges by the City of San Diego of extracted groundwater from the vicinity of the Convention Center to San Diego Bay have been in consistent violation of the toxicity limitations in Order No. 2000-90 since January 2002 and for the effluent limitation for copper since December 2001.

Finding No. 3. The submerged outfall and carbon adsorption units have had partial success in eliminating some of the violations of Order R9-2003-0050. The City recommends the following language for Finding No. 3:

The City of San Diego constructed a submerged outfall and installed carbon adsorption units in 2001. The City has had partial success in eliminating some of the toxicity violations of Order R9-2003-0050. Additionally, implementation of the City's outfall discharge insures compliance with applicable state and federal receiving water standards for toxicity.

Finding No. 5. The City of San Diego strongly objects to the assertion that it has been negligent in seeking out reasonable solutions to the violations of Order No. R9-2000-0090. As detailed above, the City has installed carbon adsorption units to treat 100 percent of the discharge flow which has helped to remove pollutants from the discharge. The City and San Diego Unified Port District also constructed, at a cost of nearly two million dollars (\$2,000,000), an outfall and engineered diffuser that insures that receiving waters outside the outfall zone of initial dilution (mixing zone) comply with applicable state and federal receiving water standards (with the possible exception of occasional copper exceedances). Finally, the City has continued to assess overall discharge compliance options, and the City is in discussions with a consulting firm to perform additional tasks that will assess regulatory and physical options to insure that the discharge is in compliance.

Finding Number 5 also states the "The City of San Diego has not presented a schedule that describes a reasonable period for a comprehensive toxicity identification or reduction to be performed." According to Order No. 2000-90, if toxicity-testing results show a violation of any toxicity limitation, the enrollee shall: "a) Take all reasonable measures necessary to immediately minimize toxicity; and b) Increase the frequency of the toxicity tests that showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations." The City has done both "a" and "b" above in response to toxicity violations. The outfall, which discharges Convention Center dewatering effluent 246 feet offshore of the Convention Center at a depth of 35 feet, was specifically implemented to insure that toxicity is in compliance with state and federal water quality receiving water standards at the edge of the outfall diffuser mixing zone.

Additionally, full carbon treatment was implemented. In consideration of issues surrounding site-specific effluents limits for copper, the city is reviewing a consultant proposal to evaluate the copper and toxicity relationship and address additional TIE studies if necessary. This fully developed work effort will be included in the parallel work plan for compliance and presented to the Regional Board in accordance with the requirements of the CDO.

Finding No. 6. The City has calculated that the actual amount of copper typically discharged to San Diego Bay by the Convention Center outfall is approximately forty (40) pounds per year, whereas Regional Board staff state that the Bay receives close to eighty thousand (80,000) pounds per year from all sources. The cost of re-directing the effluent to sewer is estimated to be in the millions of dollars. The City believes that, during times when state and local governments are suffering from significant economic impacts, it is imprudent for the City to spend significant quantities of money unless the public derives benefit from the expenditure. Discharging the Convention Center dewatering flow to the sewer system would entail considerable costs (in excess of \$0.5 million per year, not including capacity charges). The City is convinced that the outfall and diffuser (constructed in accordance with recommendations of the above-noted committee) insures compliance with applicable state and federal receiving water standards (with the possible exception of occasional copper exceedances). The only significant noncompliance problem is one that stems from the assignment of pre-outfall effluent standards that do not take into account outfall hydrodynamics in establishing appropriate effluent standards. The City looks forward to supplying more detailed economic information to the Regional Board regarding costs associated with the sewer discharge option.

Requirement No. 3. The City requests that the compliance date for completing this requirement be established at September 15, 2003. Preparation of the detailed work plan will involve the need for outside expertise, and 60 days is insufficient time to bring the necessary contractors on board, evaluate potential compliance options, and prepare the required submittal. While the language of Finding No. 3 is strongly worded toward developing a physical solution to the NPDES effluent limit noncompliance, as noted above, it is the City's intent to develop a "remedial action plan" that involves parallel development of a regulatory solution to the noncompliance issues, and a physical solution to the noncompliance. It is further the City's intent (and, indeed duty to City rate payers) to implement a physical solution to the Convention Center noncompliance only if it is demonstrated a regulatory demonstration of compliance is not workable. It is our interpretation that Requirement No. 3 allows the City to adopt this "parallel" approach toward compliance.

Please contact me at (619) 758-2300 if you have any questions or need any additional information.

Sincerely,



Alan C. Langworthy
Deputy Metropolitan Wastewater Director